

**HOME HEALTH PROCESS QUALITY REPORTS:  
TECHNICAL DOCUMENTATION OF MEASURES**

OASIS-D

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# HOME HEALTH PROCESS QUALITY REPORTS: TECHNICAL DOCUMENTATION OF MEASURES

## INTRODUCTION

This document provides definitions of all measures that appear in the Process Measures Tally Report, including detailed specifications for calculating these measures based on OASIS-D assessment data. A subset of these measures are included in other reports and on Home Health Compare.

### Quality Episodes of Care for OASIS Quality Measures

A quality episode of care is the unit of analysis for OASIS-based measures. This section provides the steps to construct a home health quality episode of care from OASIS assessments. The following fields are needed from each assessment to construct home health quality episodes of care:

- M0100\_ASSMT\_REASON: Reason for assessment
- FAC\_INT\_ID: Facility internal ID
- RES\_INT\_ID: Resident internal ID
- STATE\_CD: State abbreviation
- EFCTV\_DT: Effective date of the assessment<sup>1</sup>
- ASSESSMENT\_ID: Unique identifier for each assessment

OASIS assessments are transmitted to the National Submissions Database residing on a secure database server maintained by CMS. Episodes of care are constructed by matching up assessments for each individual served by a home health agency, sorting those assessments by effective date, then pairing up assessments that mark the beginning and end of an episode of care. Episodes of care for which either the beginning or end assessment is missing, or for which assessments are out of sequence, are not included.

When working with assessment records from the National Submissions Database, the unique home health agency ID is a combination of the two position STATE\_CD and FAC\_INT\_ID, and the unique patient ID is a combination of STATE\_CD and RES\_INT\_ID.

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<sup>1</sup> Effective date depends on the reason for assessment:

- If M0100\_ASSMT\_REASON = 01, effective date = M0030\_START\_CARE\_DT.
- If M0100\_ASSMT\_REASON = 03, effective date = M0032\_ROC\_DATE.
- If M0100\_ASSMT\_REASON = 04 or 05, effective date = M0090\_INFO\_COMPLETET\_DT.
- If M0100\_ASSMT\_REASON = 06, 07, 08, or 09, effective date = M0906\_DC\_TRAN\_DTH\_DT.

The process of building episode-level records is as follows:

1. Keep only assessments related to start of care (SOC), resumption of care (ROC) after an inpatient facility stay, or end of care (EOC) discharge from home health care, including discharge due to death, or admission to inpatient facility for 24 hours or more:
  - a. SOC: M0100\_ASSMT\_REASON = 01
  - b. ROC: M0100\_ASSMT\_REASON = 03
  - c. EOC: M0100\_ASSMT\_REASON = 06, 07, 08, or 09
2. Sort assessments by FAC\_INT\_ID, RES\_INT\_ID, STATE\_CD in descending order based on EFCTV\_DT (i.e., latest to earliest assessment).
3. For each set of assessments having the same combination of FAC\_INT\_ID, RES\_INT\_ID, STATE\_CD, step through the assessments to find the latest assessment with M0100\_ASSMT\_REASON = 06, 07, 08, or 09.
4. If an assessment with M0100\_ASSMT\_REASON = 06, 07, 08, or 09 is found before an assessment with M0100\_ASSMT\_REASON = 01 or 03 is found, discard the episode being built and start over with step #3.
5. If no assessment with M0100\_ASSMT\_REASON = 01 or 03 is found before the assessments for this patient are exhausted, discard the episode being built.
6. When an assessment with M0100\_ASSMT\_REASON = 01 or 03 is found, the episode is complete.
7. Create an episode of care record with the following attributes:
  - FAC\_INT\_ID
  - RES\_INT\_ID
  - STATE\_CD
  - ASSESSMENT\_ID\_1: Assessment ID of the SOC or ROC assessment
  - ASSESSMENT\_ID\_2: Assessment ID of the EOC assessment
  - EFCTV\_DT\_1: Effective date of the SOC or ROC assessment
  - EFCTV\_DT\_2: Effective date of the EOC assessment

### **Assumptions and Conventions**

The following transformations result in measures with numeric values. For process and outcome measures, “1” indicates that the outcome event occurred or the process was

followed, while "0" indicates the outcome event did not occur or the process was not followed. When the instructions indicate that a measure is to be set to "MISSING", the case is excluded from analysis for that particular measure, either because the measure is not applicable or a data item on which that measure is based has been indicated as unknown or has been skipped.

OASIS data items are referred to in this documentation using field names specified in OASIS Data Submission Specifications published by CMS. "[1]" is appended to the field name if the value is taken from the beginning assessment (Start or Resumption of Care), and "[2]" is appended if the value is to be taken from the ending assessment for an episode (Discharge, Transfer, or Death).

The expression DATEVALUE indicates a conversion of a text representation of a date to a date value. The actual conversion function used will vary with the software used. Similarly, YEAR, DAY, and MONTH indicate conversion of a date value to a numeric value representing the year, day, or month, and will also be software-specific. Starting with OASIS D, dash '-' may be used as a response for certain items.

## PROCESS MEASURE TRANSFORMATION SPECIFICATIONS

### Measures

Throughout the remainder of this document, the measures for inclusion in the Process Quality Report are referred to as follows:

<b>Process Measure Domain and Descriptive Measure Name</b>	<b>Short Measure Name</b>
<u>Timely Care Domain</u>	
Timely Initiation Of Care	Timely_Care
<u>Assessment Domain</u>	
Depression Assessment Conducted	Depression_Asmt
Multifactor Fall Risk Assessment Conducted for All Patients who Can Ambulate	Fall_Risk_Asmt
<u>Care Plan Implementation Domain</u>	
*Depression Interventions Implemented	Depression_Implmnt_All
Diabetic Foot Care And Patient/Caregiver Education Implemented	Diabetic_Ft_Care_Implmnt_All
*Pain Interventions Implemented	Pain_Implmnt_All
*Treatment Of Pressure Ulcers Based On Principles Of Moist Wound Healing Implemented	P_U_Implmnt_All
<u>Education Domain</u>	
Drug Education On All Medications Provided To Patient/Caregiver	Drug_Ed_Implmnt_All
*Drug Education On High Risk Medications Provided To Patient/Caregiver At Start Of Episode	Drug_Ed_Hi_Risk_SOC
<u>Prevention Domain</u>	
*Falls Prevention Steps Implemented	Fall_Prvtnt_Implmnt_All
Influenza Immunization Received For Current Flu Season	Influenza_Immunization
Influenza Immunization Offered and Refused	Influenza_Refused
Influenza Immunization Contraindicated	Influenza_Contraindicated
Pneumococcal Vaccine Ever Received	Pneumococcal_Vaccine
Pneumococcal Vaccine Offered and Refused	Pneumococcal_Refused
Pneumococcal Vaccine Contraindicated	Pneumococcal_Contradicated
*Pressure Ulcer Prevention Implemented	P_U_Prvtnt_Implmnt_All
Drug Regimen Review Conducted with Follow-up for Identified Issues	Drug_Reg_Review

\*Measure removed in 2017 and information available on Process Tally report for reference only.

## PROCESS QUALITY MEASURES DATA TRANSFORMATION PSEUDO-CODE

### Timely Care Domain

#### Timely Initiation of Care

*Note: If physician has specified SOC/ROC date, then SOC/ROC should be on that date. If no SOC/ROC date has been specified by physician, then SOC/ROC should be within two days of referral or, if inpatient discharge is later than referral, within two days of inpatient discharge.*

**IF** M0100\_ASSMT\_REASON[1] = 01

**THEN**

**IF** M0102\_PHYSN\_ORDRD\_SOCROC\_DT\_NA[1] = 1

**THEN**

**IF** M0104\_PHYSN\_RFRL\_DT[1] IS BLANK

**THEN**

            Timely\_Care = MISSING

**ELSE**

**IF** DATEVALUE(M0030\_START\_CARE\_DT[1]) <=

        DATEVALUE(M0104\_PHYSN\_RFRL\_DT[1]) +2 Days

**THEN**

            Timely\_Care = 1

**ELSE**

**IF** M1000\_DC\_NONE\_14\_DA[1] = 1

**THEN**

            Timely\_Care = 0

**ELSE**

**IF** M1005\_INP\_DSCHG\_UNKNOWN[1] = 1

**THEN**

            Timely\_Care = MISSING

**ELSE**

**IF** DATEVALUE(M1005\_INP\_DISCHARGE\_DT[1]) >

        DATEVALUE(M0104\_PHYSN\_RFRL\_DT[1])

**THEN**

**IF** DATEVALUE(M0030\_START\_CARE\_DT[1]) <=

            DATEVALUE(M1005\_INP\_DISCHARGE\_DT[1]) +

            2 Days

**THEN**

                Timely\_Care = 1

```

ELSE
    Timely_Care = 0
END IF
ELSE
    Timely_Care = 0
END IF
END IF
END IF
END IF
ELSE
    IF DATEVALUE(M0030_START_CARE_DT[1]) =
        DATEVALUE(M0102_PHYSN_ORDRD_SOCROC_DT[1])
    THEN
        Timely_Care = 1
    ELSE
        Timely_Care = 0
    ENDIF
END IF
ELSE
    IF M0102_PHYSN_ORDRD_SOCROC_DT_NA[1] = 1
    THEN
        IF M0104_PHYSN_RFRL_DT[1] IS BLANK
        THEN
            Timely_Care = MISSING
        ELSE
            IF DATEVALUE(M0032_ROC_DATE[1]) <=
                DATEVALUE(M0104_PHYSN_RFRL_DT[1]) +2 Days
            THEN
                Timely_Care = 1
            ELSE
                IF M1000_DC_NONE_14_DA[1] = 1
                THEN
                    Timely_Care = 0
                ELSE
                    IF M1005_INP_DSCHG_UNKNOWN[1] = 1
                    THEN
                        Timely_Care = MISSING
                    ELSE

```



```

        IF DATEVALUE(M1005_INP_DISCHARGE_DT[1]) >
        DATEVALUE(M0104_PHYSN_RFRL_DT[1])
        THEN
            IF DATEVALUE(M0032_ROC_DATE[1]) <=
            DATEVALUE(M1005_INP_DISCHARGE_DT[1]) +
            2 Days
            THEN
                Timely_Care = 1
            ELSE
                Timely_Care = 0
            END IF
        ELSE
            Timely_Care = 0
        END IF
    END IF
END IF
END IF
ELSE
    IF DATEVALUE(M0032_ROC_DATE[1]) =
    DATEVALUE(M0102_PHYSN_ORDRD_SOCROC_DT[1])
    THEN
        Timely_Care = 1
    ELSE
        Timely_Care = 0
    ENDIF
END IF
END IF

```

---

### **Assessment Domain**

#### **Depression Assessment Conducted**

```

IF M1700_COG_FUNCTION[1] = 04 OR M1710_WHEN_CONFUSED[1] = NA OR
M1720_WHEN_ANXIOUS[1] = NA
THEN
    Depression_Asmt = MISSING
ELSE IF M1730_STDZ_DPRSN_SCRNG[1] = 01
    OR M1730_STDZ_DPRSN_SCRNG[1] = 02
    OR M1730_STDZ_DPRSN_SCRNG[1] = 03
THEN

```

```
        Depression_Asmt = 1
ELSEIF M1730_STDZ_DPRSN_SCRNG[1] = 00
THEN
        Depression_Asmt = 0
END IF
```

---

Multifactor Fall Risk Assessment Conducted for All Patients who Can Ambulate

```
IF M1860_CUR_AMBLTN[1] = 04 OR
    M1860_CRNT_AMBLTN[1] = 05 OR
    M1860_CRNT_AMBLTN[1] = 06
THEN
    Fall_Risk_Asmt = MISSING
ELSE
    IF M1910_MLT_FCTR_FALL_RISK_ASMT[1] = 01
        OR M1910_MLT_FCTR_FALL_RISK_ASMT[1] = 02
    THEN
        Fall_Risk_Asmt = 1
    ELSEIF M1910_MLT_FCTR_FALL_RISK_ASMT[1] = 00
    THEN
        Fall_Risk_Asmt = 0
    END IF
END IF
```

**Care Plan Implementation Domain**

\*Depression Interventions Implemented

```
IF M1700_COG_FUNCTION[1] = 04 OR M1710_WHEN_CONFUSED[1] = NA
    OR M1720_WHEN_ANXIOUS[1] = NA OR M2401_INTRVTN_SMRY_DPRSN[2] =
    NA OR M0100_ASSMT_REASON[2] = 08
THEN
    Depression_Implmnt_All = MISSING
ELSEIF M2401_INTRVTN_SMRY_DPRSN[2] = 01
THEN
    Depression_Implmnt_All = 1
ELSEIF M2401_INTRVTN_SMRY_DPRSN[2] = 00
THEN
    Depression_Implmnt_All = 0
END IF
```

---

Diabetic Foot Care And Patient/Caregiver Education Implemented

```
IF M2401_INTRVTN_SMRY_DBTS_FT[2] = NA
  OR M0100_ASSMT_REASON[2] = 08
THEN
  Diabetic_Ft_Care_Implmnt_All = MISSING
ELSE
  IF M2401_INTRVTN_SMRY_DBTS_FT[2] = 01
  THEN
    Diabetic_Ft_Care_Implmnt_All = 1
  ELSEIF M2401_INTRVTN_SMRY_DBTS_FT[2] = 00
  THEN
    Diabetic_Ft_Care_Implmnt_All = 0
  END IF
END IF
```

---

\*Pain Interventions Implemented

```
IF M2401_INTRVTN_SMRY_PAIN_MNTR[2] = NA
  OR M0100_ASSMT_REASON[2] = 08
THEN
  Pain_Implmnt_All = MISSING
ELSE
  IF M2401_INTRVTN_SMRY_PAIN_MNTR[2] = 01
  THEN
    Pain_Implmnt_All = 1
  ELSEIF M2401_INTRVTN_SMRY_PAIN_MNTR[2] = 00
  THEN
    Pain_Implmnt_All = 0
  END IF
END IF
```

---

\*Treatment Of Pressure Ulcers Based On Principles Of Moist Wound Healing Implemented

```
IF M2401_INTRVTN_SMRY_PRSULC_WET[2] = NA
  OR M0100_ASSMT_REASON[2] = 08
THEN
  P_U_Implmnt_All = MISSING
ELSE
  IF M2401_INTRVTN_SMRY_PRSULC_WET[2] = 01
  THEN
    P_U_Implmnt_All = 1
```

```
ELSEIF M2401_INTRVTN_SMRY_PRSULC_WET[2] = 00
THEN
    P_U_Implmnt_All = 0
END IF
END IF
```

---

### **Education Domain**

#### **Drug Education On All Medications Provided To Patient/Caregiver**

```
IF M2016_DRUG_EDCTN_INTRVTN[2] = NA
    OR M0100_ASSMT_REASON[2] = 08
THEN
    Drug_Ed_Implmnt_All = MISSING
ELSE
    IF M2016_DRUG_EDCTN_INTRVTN[2] = 01
    THEN
        Drug_Ed_Implmnt_All = 1
    ELSEIF M2016_DRUG_EDCTN_INTRVTN[2] = 00
    THEN
        Drug_Ed_Implmnt_All = 0
    END IF
END IF
```

---

#### **\*Drug Education on High Risk Medications Provided To Patient/Caregiver at Start of Episode**

```
IF M2001_DRUG_RGMN_RVW = 9
    OR M2010_HIGH_RISK_DRUG_EDCTN[1] = NA
THEN
    Drug_Ed_Hi_Risk_SOC = MISSING
ELSEIF M2010_HIGH_RISK_DRUG_EDCTN[1] = 01
THEN
    Drug_Ed_Hi_Risk_SOC = 1
ELSEIF M2010_HIGH_RISK_DRUG_EDCTN[1] = 00
THEN
    Drug_Ed_Hi_Risk_SOC = 0
END IF
```

### **Prevention Domain**

*\*Falls Prevention Steps Implemented*

```
IF M2401_INTRVTN_SMRY_FALL_PRVNT[2] = NA
  OR M0100_ASSMT_REASON[2] = 08
THEN
  Fall_Prvt_Implmnt_All = MISSING
ELSE
  IF M2401_INTRVTN_SMRY_FALL_PRVNT[2] = 01
  THEN
    Fall_Prvt_Implmnt_All = 1
  ELSEIF M2401_INTRVTN_SMRY_FALL_PRVNT[2] = 00
  THEN
    Fall_Prvt_Implmnt_All = 0
  END IF
END IF
```

---

*Influenza Immunization Received For Current Flu Season*

*Note: See date exclusions for all three influenza immunization measures below. If (M1041) Influenza Vaccine Data Collection Period is marked No **incorrectly**, then the case is included in the denominator.*

```
IF M0100_ASSMT_REASON[2] = 08
THEN
  Influenza_Immunization = MISSING
ELSEIF M1046_INFLNZ_RECD_CRNT_SEASON [2] = 01
  OR M1046_INFLNZ_RECD_CRNT_SEASON[2] = 02
  OR M1046_INFLNZ_RECD_CRNT_SEASON[2] = 03
THEN
  Influenza_Immunization = 1
ELSEIF M1046_INFLNZ_RECD_CRNT_SEASON [2] = 06
THEN
  Influenza_Immunization = MISSING
ELSE
  Influenza_Immunization = 0
END IF
```

---

---

### Influenza Immunization Offered and Refused

*Note: See date exclusions for all three influenza immunization measures below. If (M1041) Influenza Vaccine Data Collection Period is marked No **incorrectly**, then the case is included in the denominator.*

```
IF M0100_ASSMT_REASON[2] = 08
THEN
    Influenza_Refused = MISSING
ELSEIF M1046_INFLNZ_RECD_CRNT_SEASON [2] = 04
THEN
    Influenza_Refused = 1
ELSEIF M1046_INFLNZ_RECD_CRNT_SEASON [2] = 06
THEN
    Influenza_Refused = MISSING
ELSE
    Influenza_Refused = 0
END IF
```

---

### Influenza Immunization Contraindicated

*Note: See date exclusions for all three influenza immunization measures below. If (M1041) Influenza Vaccine Data Collection Period is marked No **incorrectly**, then the case is included in the denominator.*

```
IF M0100_ASSMT_REASON[2] = 08
THEN
    Influenza_Contraindicated = MISSING
ELSEIF M1046_INFLNZ_RECD_CRNT_SEASON [2] = 05
THEN
    Influenza_Contraindicated = 1
ELSEIF M1046_INFLNZ_RECD_CRNT_SEASON [2] = 06
THEN
    Influenza_Contraindicated = MISSING
ELSE
    Influenza_Contraindicated = 0
END IF
```

---

---

#### Date Exclusions for Influenza Immunization Measures

```
IF (MONTH(M0906_DC_TRAN_DTH_DT[2]) > 3
    AND MONTH(M0906_DC_TRAN_DTH_DT[2]) < 10)
    AND ((M0100_ASSMT_REASON[1] = 01
        AND MONTH(M0030_START_CARE_DT[1]) > 3
        AND MONTH(M0030_START_CARE_DT[1]) < 10
        AND YEAR(M0906_DC_TRAN_DTH_DT[2]) =
        YEAR(M0030_START_CARE_DT[1]))
    OR (M0100_ASSMT_REASON[1] = 03
        AND MONTH(M0032_ROC_DT[1]) > 3
        AND MONTH(M0032_ROC_DT[1]) < 10
        AND YEAR(M0906_DC_TRAN_DTH_DT[2]) = YEAR(M0032_ROC_DT[1])))
THEN
    Influenza_Immunization = MISSING
    Influenza_Contraindicated = MISSING
    Influenza_Refused = MISSING
END IF
```

---

#### Pneumococcal Vaccine Ever Received

```
IF M0100_ASSMT_REASON[2] = 08
THEN
    Pneumococcal_Vaccine = MISSING
ELSEIF M1051_PVX_RCVD_AGENCY[2] = 1
THEN
    Pneumococcal_Vaccine = 1
ELSEIF M1051_PVX_RCVD_AGENCY[2] = 0
THEN
    IF M1056_PVX_RSN_NOT_RCVD_AGENCY[2] = 03
    THEN
        Pneumococcal_Vaccine = MISSING
    ELSE
        Pneumococcal_Vaccine = 0
    END IF
END IF
```

---

---

*Pneumococcal Vaccine Offered and Refused*

```
IF M0100_ASSMT_REASON[2] = 08
THEN
    Pneumococcal_Refused = MISSING
ELSEIF M1051_PVX_RCVD_AGENCY[2] = 1
THEN
    Pneumococcal_Refused = 0
ELSEIF M1056_PVX_RSN_NOT_RCVD_AGENCY[2] = 03
THEN
    Pneumococcal_Refused = MISSING
ELSEIF M1056_PVX_RSN_NOT_RCVD_AGENCY[2] = 01
THEN
    Pneumococcal_Refused = 1
ELSE
    Pneumococcal_Refused = 0
END IF
```

---

*Pneumococcal Vaccine Contraindicated*

```
IF M0100_ASSMT_REASON[2] = 08
THEN
    Pneumococcal_Contraindicated = MISSING
ELSEIF M1051_PVX_RCVD_AGENCY[2] = 1
THEN
    Pneumococcal_Contraindicated = 0
ELSEIF M1056_PVX_RSN_NOT_RCVD_AGENCY[2] = 03
THEN
    Pneumococcal_Contraindicated = MISSING
ELSEIF M1056_PVX_RSN_NOT_RCVD_AGENCY[2] = 02
THEN
    Pneumococcal_Contraindicated = 1
ELSE
    Pneumococcal_Contraindicated = 0
END IF
```

---

*\*Pressure Ulcer Prevention Implemented*

```
IF M2401_INTRVTN_SMRY_PRSULC_PRVN[2] = NA
    OR M0100_ASSMT_REASON[2] = 08
THEN
```



## Transformations That Apply When the Start/Resumption of Care Assessment Is OASIS-C1 / ICD-10 Version

---

```
P_U_Prvt_Implmnt_All = MISSING
ELSE
  IF M2401_INTRVTN_SMRY_PRSULC_PRVN[2] = 01
  THEN
    P_U_Prvt_Implmnt_All = 1
  ELSEIF M2401_INTRVTN_SMRY_PRSULC_PRVN[2] = 00
  THEN
    P_U_Prvt_Implmnt_All = 0
  END IF
END IF
```

---

### Drug Regimen Review Conducted with Follow-up for Identified Issues

```
IF M2001_DRUG_REGMN_RVW[1] = '-' OR M2003_MDCTN_FLWP[1] = '-' OR
M2005_MDCTN_INTERVTN[2] = 00 OR M2005_MDCTN_INTERVTN[2] = '-'
THEN
  Drug_Reg_Review= 0
ELSEIF M2001_DRUG_REGMN_RVW[1] = 00 OR M2001_DRUG_REGMN_RVW[1] =
09
THEN
  Drug_Reg_Review= 1
ELSEIF M2001_DRUG_REGMN_RVW[1] = 01 AND M2003_MDCTN_FLWP[1] = 01
THEN
  Drug_Reg_Review= 1
ELSE
  Drug_Reg_Review= 0
END IF
```

---